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## Fire and Heat:

### Yahyā b. 'Adī and Avicenna on The Essentiality of Being Substance or Accident\*

#### Abstract

Avicenna's analysis of the definition of substance and accident repeatedly emphasizes two points: one and the same essence cannot be substance in one instance and accident in another; whether x is extrinsic or intrinsic for an underlying y does not tell us anything as to whether x is substance or not. Both points are development in an argument against certain unnamed people who claimed the opposite. In this article I will show that Avicenna's opponents are to be identified with the mainstream Baghdad Peripatetic School (Ibn Suwār, Ibn al-Ṭayyib) which based itself on the Late Antique rule that "parts of substances are substances". As for Avicenna's own position, it was developed on the basis of the heterodox position of Yahyā b. 'Adī, who anticipated Avicenna's first point. This is a further piece of evidence for something that has only recently begun to be appreciated: the influence of Ibn 'Adī on Avicenna.

In the introductory chapter I, 1 of his *Kitāb al-Šifā'*, *al-Ṭabī'īyyāt VI: Kitāb al-Nafs*, Avicenna discusses the definition of soul. He examines the traditional Peripatetic approaches to defining the soul as a "power" (*quwwa*), "form" (*ṣūra*) or "perfection" (*kamāl*, i.e. *entelecheia*) of a body and concludes that "perfection" is the best of these.<sup>1</sup> However – Avicenna continues – if we agree that soul is a perfection, this does not in itself provide grounds for straight-forwardly concluding that it is a "substance" (*ḡawhar*). For, after considering a variety of possibilities, Avicenna settles on the claim that, in order to be called a substance, soul must be "that which is not-in-a-subject at all" (*mā laysa fī mawḍū' al-battata*); and as long as we only know that the soul is a perfection, we are not able to conclude that it is "that which is not-in-a-subject at all". Avicenna justifies this latter claim on the following grounds:

If he means by "form"<sup>2</sup> that which is not-in-a-subject at all (*al-battata*), i.e. that which does not exist at all (*al-battata*) [or] in any respect (*bi-waḡh min al-wuḡūh*) by subsisting in the thing which we called for you "subject", then not every perfection would be substance. For many perfections are doubtless in-a-subject – (1) no matter if these many [perfections] are not-in-a-subject in relation to the composite (*murakkab*) and inasmuch as they are in it, because (2) their being a part of [the composite subject] does not prevent them from being in-a-subject, and (3) their being in it not as in-a-subject does not render them a substance – as some used to think.<sup>3</sup>

In this passage, Avicenna explains why being a perfection does not necessarily entail being a substance. In (1), he grants that perfection is a part of the composite (*murakkab*). However, (2) its being a part of the composite (i.e. soul's being a part of the human being) does not entail its being not-in-a-subject and (3) even if we accept that it is not in-a-subject in this particular case, it is still not automatically substance. In what follows this passage (l. 7-18), Avicenna concentrates on proving the last point. He reminds us that substance was defined as "being not-in-a-subject at

\*I am grateful to Peter Adamson, Rotraud Hansberger and anonymous referee for their useful comments on this paper.

<sup>1</sup> Avicenna, *Kitāb al-Šifā'*, *Al-Ṭabī'īyyāt*, *al-Nafs*, ed. F. RAHMAN, *Avicenna's De Anima, Being the Psychological Part of Kitāb al-Shifā'*, (Oxford 1959), p. 7, l. 8-10. In the next passage Avicenna will argue that perfection is a better notion for the soul than „power“.

<sup>2</sup> „Form“ replaces here "substance" due to the context.

<sup>3</sup> Ibid., p. 9, l. 1-7.

*all*” and not just as “being not-in-a-subject”. He argues that the discovery that something is not-in-a-subject in some particular case is not a sufficient ground for the conclusion that it is a substance. On the contrary, we have to investigate if this thing is not-in-a-subject in *any* case (*lā fī šay’ min ašyā’*) in order to know whether it is a substance or not in *this* case. Even if, in a thousand different cases, something is not-in-a-subject, should we find out that it is in-a-subject in just *one* case, it has to be concluded that this thing *as such* or in its essence is an accident (*‘araḍ fī nafsihī*). For according to Avicenna being substance or accident does not apply to something in relation (*bi-l-qiyās ilā*) to a specific substrate, but rather it is an “expression” of its essence or “self” (*bal huwa i ‘tibār lahū fī dātihī*).

At the end of the general discussion of substance and accident in *Nafs* I, 1 Avicenna emphasizes that being a part of substance, i.e. being substantial (*ġawharī*)<sup>4</sup> is not the same as being substance (*ġawhar*); and also that being not a part of substance, i.e. accidental (*‘araḍī*) is not the same as being accident (*‘araḍ*).<sup>5</sup> Does this mean that there can be accidental substances and substantial accidents? As we will see, Avicenna gives an affirmative answer to this question. Avicenna then concludes by making one of his favorite cross-references to the *Logic* (*al-Mantiq*) apparently of the *Šifā’* where the topic was discussed at length.

Returning to the question of whether soul is substance Avicenna sums up the issue: the recognition that soul is a perfection only informs us that it is a part of a composite and at most that it is not-in-a-subject in this particular case, but it fails to resolve the question of whether soul is *never* in-a-subject. With this, Avicenna proves the comment that was the starting point of the passage, namely that from the fact that soul is a perfection of body we cannot conclude that it is a substance.<sup>6</sup>

I started my paper with this passage not because I’m going to discuss the ontological status of the soul in Avicenna’s psychology,<sup>7</sup> but rather because it reveals in brief some important problems concerning Avicenna’s definition of substance and accident. At first glance, Avicenna seems to define substance in traditional terms – “*lā fī mawḍū’ al-battata*” stands obviously in a close relation to the Aristotelian “*ἐν ὑποκειμένῳ δὲ οὐδενὶ ἐστίν*” (is not in any subject) that applies both to primary and to secondary substances (*Cat.* 1a22, 1b3). However, further investigation will reveal that there was some disagreement in the tradition regarding the definition of substance. Avicenna is arguing here against somebody who assumed (*ẓanna ba’duhum*) that everything that is a part of substance – even if it is a composite substance – is ipso facto to be assigned the status of substance. Avicenna’s own definition of substance which is provided in this passage places particular emphasis on the condition that a thing has to be

<sup>4</sup> Both Arabic *ġawharī* and English “substantial” are equivocal and can refer both to the fact that something is substance and that something is an integral ontological part of substance. In this article I will mean the latter whenever I use the word “substantial” or “substantiality”. To render the first idea I will use the expression “substancehood” or “being substance”. For the equivocality of Arabic “*ġawharī*” see *infra*.

<sup>5</sup> Avicenna, *Nafs* I, 1, p. 10, l.3-6

<sup>6</sup> Ibid., p. 10, l. 9-14.

<sup>7</sup> Some research has already been done on Avicenna’s theory of the soul (e.g. DAG HASSE, *Avicenna’s De Anima in the Latin West: The Formation of a Peripatetic Philosophy of the Soul, 1160-1300* (London-Turin 2000), THÉRÈSE-ANNE DRUART, *The Human Soul’s Individuation and Its Survival After The Body’s Death: Avicenna On The Causal Relation Between Body and Soul*, in: *Arabic Sciences and Philosophy* 10 (2000), pp. 259-273). His famous “Flying Man” has attracted particular attention (e.g. MICHAEL MARMURA, *Avicenna’s “Flying Man” in Context*, in: M. MARMURA (ed.), *Probing in Islamic Philosophy: Studies in the Philosophies of Ibn Sina, al-Ghazali and Other Major Thinkers* (Bringhamton-New-York 2005), pp. 181-196). The question about the ontological status of the soul and its being a separable substance was investigated in ROBERT WISNOVSKY, *Avicenna’s Metaphysics in Context* (London 2003), pp. 113-144).

found in all cases to be “not-in-a-subject” in order to qualify as substance. In other words, being a substance or accident is thought of as an essential omnitemporal feature of each type of a thing.

The above passage, then, presents some key features of the Avicennian definition of substance that will be central for the present paper. I intend to show that Avicenna’s position was a reaction against a majority view within the preceding philosophical tradition of defining substance. The most significant background of Avicenna’s discussion can be located in the dispute about the ontological status of heat (*ḥarāra*) in fire (*nār*) that emerged in the 10<sup>th</sup> century in the so-called Baghdad Peripatetic School. The key figures I shall discuss will be Yahyā Ibn ‘Adī (d. 974), Ḥasan Ibn Suwār (d. after 1017) and Abū l-Farağ Ibn al-Ṭayyib (d. 1043), the key question – does a part of a substance automatically attain the status of substance? Since this question had already been discussed at some length during Late Antiquity, we will also look at the roots of Yahyā’s and Ḥasan’s dispute on heat and fire in that epoch. It will be shown that in some respects Avicenna takes the position of Yahyā Ibn ‘Adī: both of them accept that something’s being a part of a composite does not render it a substance, whereas its being in-a-subject even once does make it always an accident. In the *Maqūlāt* I, 6, *Nafs* I, 1 and *Ilāhiyyāt* II, 1 Avicenna criticizes both sides of the discussion and the whole tradition preceding him on the topic of the general approach to the definition of substance and accidents. Avicenna argues that being a part of substance or not a part of substance, i.e. being substantial or accidental, has nothing to do with a thing’s being a substance or an accident. Neither Ibn ‘Adī nor Ibn Suwār would have agreed with this position. This last criticism makes Avicenna’s definition of substance and accident quite special. The significance of this is not to be underestimated. Avicenna’s interpretation of the Aristotelian definition of substance allows him to distinguish between what one would call nowadays “essential” and “existential” grounding. Moreover, it bears on the traditional questions of natural philosophy and metaphysics. In particular, the passage from *Nafs* I, 1 discussed above clearly shows that the Avicennan definition of substance is crucial for his philosophical methodology.

### *Parts of Substances are Substances: Antique and Late Antique Context*

In our search for the roots of Avicenna’s discussion of the definition of substance we will have to go back some distance in the history of philosophy. The starting point of the development of what was later to become Avicenna’s definition of substance is undoubtedly Aristotle’s *Categories*.

In *Cat.*, Aristotle defines both primary and secondary substances as things “which are not-in-a-subject” (*κοινὸν δὲ κατὰ πάσης οὐσίας τὸ μὴ ἐν ὑποκειμένῳ εἶναι* – *Cat.* 3a7) or rather “not-in-a-subject at all” (*ἐν ὑποκειμένῳ δὲ οὐδενὶ ἐστίν* – *Cat.* 1a22, 1b3). Accidents, for their part, are in-a-subject. Being in-a-subject is articulated by Aristotle in the following manner: “*By being ‘present in-a-subject’ I mean what is present not as a part in a whole, but being incapable of existence apart from the said subject*” (*ἐν ὑποκειμένῳ δὲ λέγω ὃ ἐν τινὶ μὴ ὡς μέρος ὑπάρχον ἀδύνατον χωρὶς εἶναι τοῦ ἐν ᾧ ἐστίν* – *Cat.* 1a24-25, tr. based on Barnes).<sup>8</sup> It follows that if something is in its subject as a part of a composite, it is not-in-a-subject *par excellence*, i.e. as

<sup>8</sup> I cannot agree with FRANS DE HAAS, *John Philoponus’ New Definition of Prime Matter* (Leiden-New-York-Köln 1997), p. 198 that this definition should not be understood as a definition of accident. Indeed, using Avicenna’s framework, it is the definition of accident as an ontological category but not the definition of “accidentality” (meaning “being extrinsic”).

accidents are. Does this mean that something that is a part of a composite is automatically a substance? Aristotle seems to give an affirmative answer: “*The fact that the parts of substances appear to be present in the whole, as in-a-subject, should not make us apprehensive, lest we should have to admit that such parts are not substances: for in explaining the phrase ‘being present in-a-subject’, we stated that we meant ‘otherwise than as parts in a whole’*” (tr. Barnes).<sup>9</sup> Does this apply only to organic parts of physical bodies or also to matter and form as parts of the hylomorphic compound?<sup>10</sup> If one opts for the latter and believes that *differentiae* are in some sense forms one could conclude that *differentiae* are substances (as Alexander of Aphrodisias did).<sup>11</sup> Aristotle touches upon this conclusion at *Cat.* 3a21. He assumes there that being not-in-a-subject is not a *proprium* of substances because it also applies to *differentiae*.<sup>12</sup> One can draw a twofold conclusion from this passage: on the one hand, *differentia* is said to be not-in-a-subject – so we can seemingly conclude that it is substance. On the other hand, Aristotle explicitly contrasts *differentiae* to substances since he explains that being not-in-a-subject is not a *proprium* of either substance or *differentia*. Thus, Aristotle leaves unanswered the question as to whether we can automatically label conceptual parts of substances as substances: the case of *differentiae* (if they count as parts of substances) is highly ambiguous.

One of the first reactions to Aristotle’s account of substance in *Cat.* that is known to us is found in Simplicius’ report concerning a mysterious Lucius.<sup>13</sup> Lucius’ *aporia* – reported by Simplicius – reveals that there was an interpretation of Aristotle’s account of substance in the *Categories* during Antiquity that ascribed to him a view that some parts of substance – at least intelligible ones – are in their substance as in-a-subject and so *ipso facto* are not themselves substances. Lucius – according to Simplicius – pointed out that the “complements” of substance (τὰ συμπληρωτικά τῆς οὐσίας) should be thought of as parts of substance – for example, the whiteness and coldness that are parts of the substance of snow. If we accept Aristotle’s definition of that which is not-in-a-subject, which allows parts of substances not to be in-a-subject, then two possibilities follow necessarily. Either (1) these complements are not-in-a-subject, in which case complements are substances; or (2) the definition of accidenthood is false and the condition “they are not parts of a subject” has to be omitted from it.<sup>14</sup> Since Lucius concludes that Aristotle must opt for the second possibility, he thinks that Aristotle would not agree with the first one.<sup>15</sup>

<sup>9</sup> Aristotle, *Categoriae*, ed. L. MINIO PALUELLO, *Aristotelis categoriae et liber de interpretatione* (Oxford 1949), 3a29-32: “μὴ παρατίττω δὲ ἡμᾶς τὰ μέρη τῶν οὐσιῶν ὡς ἐν ὑποκειμένοις ὄντα τοῖς ὅλοις, μή ποτε ἀναγκασθῶμεν οὐκ οὐσίας αὐτὰ φάσκειν εἶναι· οὐ γὰρ οὕτω τὰ ἐν ὑποκειμένῳ ἐλέγετο τὰ ὡς μέρη ὑπάρχοντα ἐν τινι.”

<sup>10</sup> Most modern interpreters assume that Aristotle meant physical parts and not *differentiae* in this passage (s. e.g. KLAUS OEHLER, *Aristoteles: Werke in deutscher Übersetzung*, Bd. 1 (Oldenburg 2006), p. 265 and MARWAN RASHED, *Essentialisme: Alexandre d’Aphrodise entre logique, physique et cosmologie* (Berlin-New York 2007), p. 43, n. 133). However, the Late Antique commentators wouldn’t have agreed with this interpretation, as will become clear shortly. For the view that it is hylomorphic compound here at stake s. RASHED, *Essentialisme*, p. 44.

<sup>11</sup> Cf. RASHED, *Essentialisme*, p. 50, 69-70, 75ff. This can be also related to comparing *differentiae*-genus relation to form-matter relation (cf. Aristotle, *Met.* Δ, 28, 1024b6-9 and *Met.* Ζ, 12, 1038a-9 and Porphyry, *Isagoge*, ed. A. BUSSE, *Commentaria in Aristotelem Graeca* 4.1. (Berlin 1887), p. 11, 15-6).

<sup>12</sup> *Cat.* 3a20-22: „ὥστε οὐκ ἂν εἴη οὐσία τῶν ἐν ὑποκειμένῳ. — οὐκ ἴδιον δὲ οὐσίας τοῦτο, ἀλλὰ καὶ ἡ διαφορὰ τῶν μὴ ἐν ὑποκειμένῳ ἐστίν.“

<sup>13</sup> On Lucius and the *aporia* handed down by Simplicius s. MICHAEL GRIFFIN, *Aristotle’s Categories in the Early Roman Empire* (Oxford 2015), pp. 108-11; 120-1 und PAUL MORAUX, *Der Aristotelismus bei den Griechen: von Andronikos bis Alexander von Aphrodisias*, Bd. 2 (Berlin-New-York 1984), p. 528-563 esp. 537-538.

<sup>14</sup> Simplicius, *In Aristotelis categorias commentarium*, ed. K. KALBFLEISCH, *Simplicii in Aristotelis categorias commentarium, Commentaria in Aristotelem Graeca* 8 (Berlin 1907), p. 48, 1-11.

<sup>15</sup> P. Moraux rightly noticed this *aporia* is rather strange against the background of what we find in Aristotle’s *Cat.* It is Aristotle himself who firstly accepts that *differentiae* – that undoubtedly are to be numbered under Lucius’ “complements” of substance – are not-in-a-subject. Moreover, he agrees at *Cat.* 3a29-32 that the parts of a substance

Hence, in Lucius' opinion Aristotle cannot agree that the aforementioned complements of substances are not-in-a-subject. For "whiteness" and "coldness" are qualities and therefore are good candidates for being accidents.

Following Lucius' *aporia* Simplicius provides an answer given by Porphyry<sup>16</sup> where he quotes Porphyry's "*In Cat. ad Gedalium*". Porphyry explicitly states there that the "complements" of substance are *in* their substance but not as in-a-subject – i.e. he chooses the first possibility offered by Lucius. The famous example of heat and fire comes to the forefront here: heat is in fire (ἡ θερμότης τῆς μὲν τοῦ πυρὸς) essentially (οὐσιωδῶς) and not as in-a-subject because it is its complement whereas in iron it is as in-a-subject.<sup>17</sup> Porphyry makes an important shift when proving that complements are not in-a-subject. He argues that only accidents that come to be and depart from their subject (γίνεται καὶ ἀπογίνεται ἐν τῷ σιδήρῳ ἄνευ τῆς τοῦ σιδήρου φθορᾶς) are *in* it.<sup>18</sup> In order to distinguish what is in-a-subject from what is not, Porphyry draws the main contrast between "substantial" and "accidental". The former is not-in-a-subject, the latter is.<sup>19</sup> However, Porphyry still does not accept that everything that is substantial qualifies as substance. In his system, (1) what is in-a-subject is accident whereas (2) what is not-in-a-subject can be divided into (2a) substance and (2b) the complements of substance. If this is the case, then Porphyry introduces a third kind of entity alongside substances and accidents: "substantial complements". Simplicius seems to grasp this difficulty in his reaction to Porphyry's opinion, although from the way he expresses himself it seems that he did not understand the argument.<sup>20</sup> We shall come back to Simplicius' solution to this problem later.

In *In Cat.*, Porphyry discusses the Aristotelian passage at *Cat.* 3a21 where *differentiae* are said to have 'being not-in-a-subject' in common with substances. Here again, Porphyry argues that complements of substance are in their substances not as in-a-subject. However, his position retains the tension in the Aristotelian account at *Cat.* 3a21. On the one hand, Porphyry accepts the contrast between substances and *differentiae*. He further claims that *differentiae* are not

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are substances themselves and correspondingly not-in-a-subject exactly because of his definition stated above in *Cat.* (MORAUX, *Aristotelismus*, p. 538).

<sup>16</sup> Despite Simplicius' account it remains a question whether Porphyry really was the first to try to solve Lucius' *aporia*. For instance, it is known that both Alexander of Aphrodisias and Plotinus agreed with a view identical with the first possibility given by Lucius. They could have anticipated Porphyry in this respect (RASHED, *Essentialisme*, p. 76ff on Alexander defining *differentiae* as substances and Plotinus, *Enneades*, ed. P. HENRY and H.R. SCHWYZER, *Plotini opera*, vol. 2 (Berlin 1959): VII, 3, 5, 12-13 where Plotinus draws on substancehood on the ground of being a part of substance).

<sup>17</sup> A possible source for this line of thought could have been Alexander's view that heat is substance as an intrinsic element of substances (Alexander *apud Averroem*, *In Aristotelis metaphysica commentarium*, in: Averroes, *Tafsīr mā ba'd al-ṭabī'a: Grande Commentaire de la Métaphysique*, ed. M. BOUYGES (Beirut 1938-1948), p. 1519, 10-11). In Alexander, *In Aristotelis topicorum libros octo commentaria*, ed. M. WALLIES, *Commentaria in Aristotelem Graeca* 2.2. (Berlin 1891), p. 50, 14-15 Alexander claims that heat is not an accident of fire though it is an accident in other things. Thereby he rejects the suggested definition of accident as that "which is accidental at least once". Though this looks very similar to Avicenna's definition, there is a radical difference between them. Alexander's opponents applies this definition to the accident meaning "accidental" whereas Avicenna to "accident as ontological category". Therefore Avicenna's position is rather closer to Alexander: that something can be both accidental and substantial in different cases. Cf. THEODOR ERBERT, *Aristotelian Accidents*, in: C. Taylor (ed.), *Oxford Studies in Ancient Philosophy* XVI (1998), p. 146-147 and DE HAAS, *Prime Matter*, p. 203.

<sup>18</sup> Porphyry applies Aristotle's second definition of accident in *Top* I, 5, 102b6-7, upgraded by Alexander, *In Top.*, p. 49, 25 – 50, 5 to accident defined as being-in-a-subject.

<sup>19</sup> Simplicius, *In Cat.*, p. 48, 11-33.

<sup>20</sup> *Ibid.*, 49, 1-9. Simplicius objects to Porphyry as follows. If „being not-in-a-subject“ is predicated only of substances whereas "being in-a-substance" is predicated of accidents, then "complements" seem to belong to no category at all. Since Simplicius automatically equates being not-in-a-subject with substance he does not notice Porphyry's insistence that the substantial complements are precisely not-in-a-subject parallel to substances, so that being not-in-a-subject is characteristic of both.

substances according to the Aristotelian notion, but are rather just “substantial qualities” (ποιότης οὐσιώδης). That is, as might have been expected, he refuses to count *differentiae* as secondary substances. For, apparently, he concedes the hidden premise of Lucius’ *aporia* that qualities are not substances.<sup>21</sup> On the other hand, immediately in the next passage, Porphyry writes that *differentiae* are complements of substance and adds that the complements of substance are substances (τὰ συμπληρωτικά δὲ τῶν οὐσιῶν οὐσίαι).<sup>22</sup> As S. Strange correctly points out, Porphyry seems to be alluding here to *Cat.* 3a29.<sup>23</sup> The first premise would be that the complements of substance are parts of substances; the second premise – that the parts of substances are substances (as at *Cat.* 3a29); the conclusion – that the complements of substances are substances. Again, it is not quite clear whether Porphyry makes the step that concludes that *differentiae* are substances, but his analysis provides some grounds for this interpretation.<sup>24</sup> Still, the text as it stands seems rather to indicate a self-contradiction: *differentiae* are both “substantial qualities” and substances. This contradiction was to be removed in the later tradition, which opted for the second possibility alone.

It is important for the purposes of our later discussion to note Porphyry’s emphasis, in this passage, that something’s being an accident can be inferred from its being accidental. The substantial is contrasted to it as regards being not-in-a-subject. Heat for example can be removed from water without destroying its substance (ἀρθείσης γὰρ τῆς θερμότητος οὐ φθείρεται), so it is accidental for it. On the other hand, heat is substantial for fire because its removal does destroy fire’s substance (ἀρθεῖσα γὰρ φθείρει τὸ πῦρ). Since Porphyry seeks to prove in this passage that *differentiae* are not-in-a-subject, the following theory can be reconstructed: *if something is substantial it is not-in-a-subject, whereas if something is accidental, it is in-a-subject*. Thus, Porphyry made a very, if not the most, important step towards the position that Avicenna would later come to attack. He introduced accidentality (i.e. extrinsicality) as a criterion for being in-a-subject or not. Only one step remains in the development of this line of thought: to remove the aforementioned contradiction by eliminating any contrast between *differentiae* and substances that can be suggested on grounds of *Cat.* 3a21.

This is exactly what later Neoplatonist Commentators would do. Simplicius reacts against Porphyry’s solution to Lucius’ *aporia* and brings to its natural end what Porphyry began in the second section of the discussed passage from *In Cat.* Simplicius states that if parts of substances are substances, and complements - including *differentiae* – are parts of substances, we can conclude that *differentiae* of substances are substances – as noted earlier it was already Alexander who came to this conclusion.<sup>25</sup>

Ammonius takes up his predecessors’ idea that *differentiae* have an indefinite status. In the case of heat in fire, we are dealing with something between substance and accident (ἀκριβῶς ἐν μέσῳ τῶν οὐσιῶν καὶ τῶν συμβεβηκότων), whereas such *differentiae* as “rational” and

<sup>21</sup> Porphyry, *In Aristotelis categorias commentarium*, ed. A. BUSSE, *Commentaria in Aristotelem Graeca* 4.1. (Berlin 1887), p. 95, 17 – 20. In the same direction goes Porphyry’s famous differentiation between *genera* and *differentiae* regarding the fact that the former are ἐν τῷ τί ἐστι κατηγορούμενον whereas the latter ἐν τῷ ποῖόν τί ἐστι κατηγορούμενον (Idem, *Isagoge*, p. 2, 16; 11, 7-8).

<sup>22</sup> Porphyry, *In Cat.*, 95, 22 – 96, 2.

<sup>23</sup> Porphyry, *On Aristotle’s Categories*, tr. S. STRANGE (London 1992), p. 87, n. 199.

<sup>24</sup> Indeed, the sentence „διὸ καὶ εἰς τὸν ὀρισμὸν τῆς οὐσίας παραλαμβάνεται ἡ διαφορὰ ὡς συμπληρωτικὴ οὐσα τῆς οὐσίας“ can be interpreted in this way, especially because the assumption that complements are substances is connected to it by a „δὲ“. However one should avoid leaping to conclusions. For one can also suggest that Porphyry is just explaining here why *differentiae* are parts of the definition of substances next to *genera*.

<sup>25</sup> Simplicius, *In Cat.*, p. 49, 1-9.

“mortal” are related to the substance (πρὸς τῇ οὐσίᾳ).<sup>26</sup> Ammonius’ own approach to the solution of the problem is somewhat less messy than this, and anticipates that of Simplicius. *Differentiae* are parts of substance; they constitute it (συνιστᾶσιν). Aristotle says clearly that parts of substance are substances themselves. Ammonius emphasizes that Aristotle did not mean only physical parts at *Cat.* 3a29 but intelligible parts too and, among them, *differentiae*.<sup>27</sup> As for *Cat.* 3a21, he solves the problem by saying that Aristotle is only contrasting sensible substances and *differentiae*, not substances and *differentiae* in general.<sup>28</sup> The conclusion is simple and perspicuous: “*Differentiae* are substances in the strict sense” (αἰτινές εἰσι κυρίως οὐσίαι).<sup>29</sup> Philoponus and Elias follow Ammonius in their Commentaries on *Cat.* 3a21, and acknowledge *differentiae* to be substances on the same grounds.<sup>30</sup>

With that, we have finished retracing the development of the definition of substance as applied to the case of substances’ parts. We started with Aristotle’s twofold assumption: (1) that being in-a-subject excludes being a part of a composite, so that the parts of substances are not-in-a-subject; (2) that *differentiae* are not-in-a-subject. In the course of time, the Late Antique commentators on Aristotle developed Aristotle’s account. If something is substantial, i.e. an intrinsic metaphysical part of a substance, it is substance itself – maybe because it is a form in this case, as Alexander claimed. If it is accidental it is an accident. Whether something is a substance or accident is to be inferred on the grounds of its current relation to that which it is predicated of. Thus, all the “complements” of substance, including *differentiae*, are substances because they are parts of substances. This fact suffices for inferring their being substance.<sup>31</sup>

#### *Yahyā Ibn ‘Adī and Ibn Suwār on fire and heat*

The problem of the ontological status of the parts of substances emerges again in the writings of Yahyā Ibn ‘Adī. It is not quite clear why he came to speak about this problem.<sup>32</sup> The work most

<sup>26</sup> Ammonius, *In Aristotelis categorias commentarius*, ed. A. BUSSE, *Ammonius in Aristotelis categorias commentaries, Commentaria in Aristotelem Graeca* 4.4. (Berlin 1895), p. 46, 10-20. Two points are not quite clear about this report. Firstly, Ammonius probably means Porphyry’s account of *differentiae* when he speaks of a “middle” position. Elias supports this view (*Eliae (olim Davidis) in Aristotelis categorias commentarium*, ed. A. BUSSE, *Eliae in Porphyrii isagogen et Aristotelis categorias commentaria, Commentaria in Aristotelem Graeca* 18.1. (Berlin 1900), p. 173, 13ff). However, J. Dillon remarks in his translation of Dexippus’ commentary on the Categories (transl. Dillon, p. 89, n. 50) that the “middle” position (that is also mentioned there) is rather to be ascribed to Plotinus. Secondly, it is not clear enough whether “related to substance” just means “substance”. The opposed case, when *differentiae* are “related to accidents” (πρὸς τοῖς συμβεβηκόσι), which is also mentioned by Ammonius, supports this suggestion. Ammonius gives an example of “white” in swan as a *differentia* “related to accident”. However, it is commonly known that “white” is just an accident of swan (although inseparable). Thus, one can conclude, even with this report, that for Porphyry some *differentiae* such as “rational” and “mortal” are substances.

<sup>27</sup> Ammonius, *In Cat.*, p. 46, 20 – 47, 5

<sup>28</sup> *Ibid.*, p. 45, 17 – 46, 9.

<sup>29</sup> *Ibid.*, 47, 9.

<sup>30</sup> John Philoponus, *In Aristotelis categorias commentarium*, ed. A. BUSSE, *Philoponi (olim Ammonii) in Aristotelis categorias commentarium, Commentaria in Aristotelem Graeca* 13.1. (Berlin 1898), p. 64, 9-69, 11 and Elias, *In Cat.*, p. 172, 31-174, 23.

<sup>31</sup> This approach could have been helpful in the Commentators’ project of reconciling Plato and Aristotle. For secondary substances become more ontologically independent in this system. On this s. *infra* in the conclusion of this article. Alexander obviously had different reasons for which see RASHED, *Essentialisme*, pp. 24-5.

<sup>32</sup> G. Endress suggested that it could have been the need to defend his Trinitarian doctrine that pushed Ibn ‘Adī towards discussing the topic (ENDRESS *The Works of Yahyā Ibn ‘Adī: An Analytical Inventory* (Wiesbaden, 1977), p. 49). This suggestion does not seem to be quite convincing. On the one hand, Ibn ‘Adī’s try to prove that heat is not a



informative of his position on the issue in question is the forthcoming “*On Fire and Heat*”.<sup>33</sup> In this treatise, Ibn ‘Adī discusses at length why heat’s (*ḥarāra*) being a part of the definition of fire (*nār*) does not make it a substance (*ḡawhar*). While discussing this problem, Ibn ‘Adī reveals his understanding of the definition of substance and accident.

Ibn ‘Adī’s opponents argue as follows:

1. Anything that cannot be removed from a substance in the imagination is its substantial part
2. If something is a part of a substance, it is a substance itself
3. Heat cannot be removed from the substance of fire in the imagination
4. Thus, heat is a part of the substance of fire [from 1, 3]
5. Thus, heat is a substance itself [from 2, 4]<sup>34</sup>

To this, Ibn ‘Adī reacts: “[Their saying] that everything that removes substance while being imagined as removed is a part of substance and substance as well – since the parts of substance are substances – this is a true premise (*inna kull mā yarfa‘u bi-tawahhumihī*<sup>35</sup> *murtafi‘an ḡawharan fa-huwa ḡuz’ ḡawhar wa-ḡawhar aydan idā kānat aḡzā’ al-ḡawhar ḡawāhir fa-inna hādihī l-muqaddima šādiqa*).”<sup>36</sup> It is clear that both Ibn ‘Adī and his opponents follow Porphyry’s rule that everything intrinsic to a substance, i.e. substantial, is a substance. Ibn ‘Adī relies again on Porphyry’s authority when he defines accident: “accident is that which comes to be and vanishes without its bearer being destroyed (*al-‘araḍ huwa mā yakūnu wa-yabṭulu min ḡayr fasād ḥāmilihī*).”<sup>37</sup> It is important to remember here that in the *Categories*’ definition of being in-a-subject, not the accident but the subject had to vanish in order that what is in-a-subject vanishes too (*ἀδύνατον χωρὶς εἶναι τοῦ ἐν ᾧ ἐστίν*):

(D1) *Cat.*: if substance is removed, what is in it as in-a-subject has to be removed too.

(D2) Porphyry: if accident is removed, substance does not have to be removed too.

Although these two definitions are compatible, one notes that Porphyry shifted the focus of the test from the substance onto the accident and Ibn ‘Adī follows him in this respect.<sup>38</sup>

If Ibn ‘Adī agrees with his opponents and the Porphyrian tradition that parts of substances are substances and that being accidental/substantial suffices to infer thing’s being substance or accident, how can he disagree that heat is a substance within the substance of fire? Ibn ‘Adī’s

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substance in fire could be considered as a way to help him show that the Son is not a substance in God. However, since Ibn ‘Adī proves in “*On Heat and Fire*” that heat is in fire as an accident, it is highly implausible that he would parallel it to the *Logos* being in the Father.

<sup>33</sup> The first to attract attention to this treatise and point out that it is combined with the Late Antique discussions on the ontological status of the parts of substance was G. ENDRESS in *The Works*, p. 49. Then, R. Wisnovsky found a manuscript of the treatise (ROBERT WISNOVSKY, *New Philosophical Texts of Yahyā ibn ‘Adī: A Supplement to Endress’ Analytical Inventory*, in: F. OPWIS and D. REISMAN, *Islamic Philosophy, Science, Culture, and Religion: Studies in Honor of Dimitri Gutas* (Leiden-Boston 2012), p. 313). I am grateful to R. Hansberger and R. Wisnovsky for providing me access to the draft of the edition of this MS. The following references will be to its folios and paragraphs as presented in the Hansberger-Wisnovsky forthcoming edition.

<sup>34</sup> Yahyā b. ‘Adī, *On Fire and Heat*, fol. 18r, §5.

<sup>35</sup> *tawahhum* stays in Arabic for *ἐπίνοια* in Greek cf. Porphyry, *Isagoge*, p. 13,1-2 and its translation in *Manṭiq Aristū*, ed. ‘A. BADAWĪ (Beirut 1980), p. 1086. I render it with “imagining” in order to keep the idea of thought experiment but I do not mean any sense of *φαντασία* implied here.

<sup>36</sup> Ibid., §10.

<sup>37</sup> Ibid., §13.

<sup>38</sup> For instance something can be an accident in Porphyrian sense and still a not-in-a-subject in Aristotelian sense – the possibility which Avicenna will cash out, s. *infra*.

answer is simple – fire is not a substance and subsequently heat cannot be labeled as “substantial” for fire and thereby itself be called “substance”. He reminds us of the definition of fire: “simple hot dry body (*ḡism basīṭ ḥārr yābis*)”. Ibn ‘Adī classifies fire as a “composition” (*muḡtami‘a*) of substance and accidents, where the substance is “body” (*ḡism*) and heat and dryness are accidents.<sup>39</sup> It is not fire that is the bearer (*ḥāmil*) of heat but exactly this “body”.<sup>40</sup> On these grounds Ibn ‘Adī is able to reconcile his claim that heat is not a substance in fire with Porphyrian notions of substantiality and accidentality. So although the removing of heat removes also fire we cannot say that it is substantial for fire because fire is neither a substance itself nor is it a subject (*mawḍū‘*) for heat. As for the “body” of fire, it is both substance and a subject for heat, but heat is not substantial for it and can be removed without this “body” being destroyed. Thus, heat is accidental for the “body” of fire although it is an integral part of fire as a whole. In this case nothing prevents heat’s being an accident since it is something accidental for the substance that underlies it, i.e. the “body” of fire.<sup>41</sup>

This solution seems to be rather *ad hoc*. One could possibly ask Ibn ‘Adī, how is he going to discern between the mentioned “compositions” and true substances? Why should not we suggest that “man” is also just a composition of the substance “living being” with the accident “rationality”? Parallel to Ibn ‘Adī’s analysis of fire, it is possible to take not “man” to be the “bearer” or subject for “rationality” but rather the “living being” that is also a part of his substance. As for the “living being” which is its true “bearer”, “rationality” is accidental for it. Thus, one could conclude that rationality is also an accident in “man”. Claiming that fire is an accident for the body of fire and not for the fire itself is not a solution. For the same can be said for every *differentia*, namely, that it always is accidental for its genus, in which case Ibn ‘Adī faces a danger that all *differentiae* are accidents. However, the described analysis of fire and heat is not the only argument for heat’s being an accident that Ibn ‘Adī produces in his treatise. Rather it is not a self-standing argument at all.<sup>42</sup> What Ibn ‘Adī seeks to prove is the fact that heat’s inalienability from fire *does not prevent* its being an accident. However, it is because of heat’s being an accident that we infer that fire is not a substance and not vice versa.

The true argument relies, not on Porphyrian notions of substantiality and accidentality, but rather on Ibn ‘Adī’s own understanding of the *Categories*’ account of substance and accident.<sup>43</sup> One finds full definitions of substances and accidents that are based on the Aristotelian account of substance and accident in the *Categories*. Accident is defined as “that

<sup>39</sup> Ibid., §11. In another philosophical treatise, Ibn ‘Adī again points out that fire as an element is “a collection of predicables” (*ḡumla mu‘allafa min maqūlāt*) but adds that it can also be understood as a substance (*ḡawhar*) (s. Yaḥyā b. ‘Adī, *Maqūlāt Yahyā b. ‘Adī al-falsafīyya*, ed. S. ḤALĪFĀT (Amman1988), p. 190). Unfortunately, he does not explain what these cases are. It is obvious that our case in “On Fire and Heat” deals with fire as with an element that is not a substance but rather a “collection”.

<sup>40</sup> Yaḥyā b. ‘Adī, *On Fire and Heat*, fol. 18r, §14-16.

<sup>41</sup> Comparing this to Ibn ‘Adī’s famous tripartite system ontological levels ((1) essence *qua* universal, (2) essence *qua* essence, (3) essence *qua* particular, s. MARWAN RASHED, *Ibn ‘Adī et Avicenne: sur les types d’existants*, in: R. CHIARADONNA (ed.), *Aristotele e suoi esegeti neoplatonici: logica e ontologia nelle interpretazioni greche e arabe* (Bibliopolis, 2004), pp. 107 – 172) one can suggest that only (2) are substances properly speaking and other two are composites of substance and accidents.

<sup>42</sup> This is obviously so in the first part of the treatise. However, Ibn ‘Adī comes back to this argument later in support of his second argument and there it seems to function still as an argument (s. Ibid., fol. 19r, §36).

<sup>43</sup> Ibn ‘Adī shows that this is his preferred argument when he mentions only it in his discussion in the presence of the vizier Abū l-Qasīm ‘Īsā Ibn ‘Alī Ibn ‘Īsā al-Ḡarrāḥ (s. short treatise Yaḥyā b. ‘Adī, *Nuṣṣat mā aṭṭabahū Yahyā b. ‘Adī li-Abī Bakr al-Adamī al-‘Aṭṭār*, fol. 72v in Hansberger-Wisnovsky edition). Ibn ‘Adī claims there that the genus of heat – if it were substance – would not include the heat in iron where it is an accident. This argument obviously functions in the same way as the argument to be presented.

which exists in a thing not as its part so that its subsistence is impossible without the thing in which it is (*al-mawḡūd fī šay' lā ka-ḡuz' minhu wa-laysa yumkinu an yakūna qiwāmuhū ḡayr al-laḡī huwa fīhī*). Substance is “that which is not in any subject at all (*mā laysa huwa l-battata fī mawḡū' mā*)”.<sup>44</sup> As for the previous analysis, i.e. the Porphyrian approach to the establishing of substantiality and accidentality, it relied mostly on the “*lā ka-ḡuz' minhu*” part of this definition. However, the author of “*On Fire and Heat*” emphasizes on the part of the Aristotelian definition of substance that says that substance is not in *any subject at all* (*al-battata fī mawḡū' mā*).<sup>45</sup> Ibn 'Adī clearly understands this not only as “in any respect” but “in no possible case”. Substance, he says, has to be not in any subject whatsoever (*fī mawḡū' min al-mawḡū' āt al-battata*).<sup>46</sup> On these grounds, Ibn 'Adī comes to the main claim of his treatise: one and the same entity that is described with the same definition cannot be both accident and substance (*ḡayr mumkin an yakūna ma'nā wāḡid - wa huwa mā yuḡaddu bi-ḡadd wāḡid - 'araḡan wa-ḡawharan*).<sup>47</sup> This claim is supported by the principle of non-contradiction: it is not possible for opposites to be true at the same time (*anna l-mutanāqidaḡn lā yumkinu an yaṣḡiqā ma'an*).<sup>48</sup> Why should we think that the “at the same time” is applicable to our case? <sup>49</sup> For in every possible case we will deal with one and the same entity (*ma'nā*) or essence (*dāt*)<sup>50</sup> – with something that is described by one and the same definition. Since it is well known that heat can be an accident in some cases, e.g. in iron (*ḡadīd*)<sup>51</sup>, and two opposite characteristics cannot be true of one and the same entity, it entails that heat – as an entity – is an accident in its essence and subsequently in the case of fire.

Although this argument is essentially new in the tradition it has not pushed Yaḡyā Ibn 'Adī to retreat from the Porphyrian analysis of substantiality and accidentality. He concludes with the claim that the impossibility of “accidental substances” and “substantial accidents” follows from Aristotle’s doctrine (*rafḡa arisṡūṡālis min al-qisma iḡāb ḡawhar 'araḡī aw 'araḡ ḡawharī*).<sup>52</sup> Unfortunately, Ibn 'Adī breaks off his analysis of this point in this passage. However, if one combines his first semi-argument and the second argument from non-contradiction, it becomes clear how Ibn 'Adī comes to his conclusion. It is simple in the case of the impossibility of accidental substances: if something is ever found to be accidental, it is always considered as an accident according to the Porphyrian system. The case of substantial accidents is more complex: if something is ever found to be in-a-subject, it has to be concluded

<sup>44</sup> I am not aware of any earlier account of substance and accidents that would anticipate Ibn 'Adī’s. The closest is the suggestion that Alexander refutes in *In Top.*, p.50, 12-13. In the modern scholarship, one finds a very similar interpretation of the Aristotelian account of accidents in EBERT, *Aristotelian Accidents*, pp. 143-147.

<sup>45</sup> Yaḡyā b. 'Adī, *On Fire and Heat*, fol. 18v, §27.

<sup>46</sup> Ibid., § 22.

<sup>47</sup> Ibid., fol. 18v, §26; or later: “*maḡāl an yūḡada ma'nā wāḡid bi-'ayniḡ ḡawharan li-šay' mā wa-'araḡan li-šay' aḡar*” (Ibid., 19v, §52).

<sup>48</sup> Ibid., fol. 18v, §28.

<sup>49</sup> Ibn 'Adī spends a lot of time proving the applicability of this rule to the substance/accident case. E.g. he has to prove that the suggestion that there is something like a universal (*kullī*) “heat” that can be once accident and once substance does not entail the possibility for heat to be once accident and once substance (Ibid., fol. 19r, §32ff). Unfortunately, his argumentation is very subtle and long and we have to omit it for the sake of brevity.

<sup>50</sup> Ibid., fo. 18v, §23: “*fa-laysa mumkin idān an yaṣḡiqā fī dāt wāḡida a'nī mā yadillu 'alayhi ḡadd wāḡid annaḡū fī mawḡū' wa-annaḡū lā fī mawḡū'*”.

<sup>51</sup> Notice the use of the same example the Porphyrian tradition used to illustrate when heat is not something substantial but accidental.

<sup>52</sup> Ibid., fol. 18v, §24. Though Porphyry himself accepted substantial accidents because he had a middle way between substances and accidents. However later tradition led his analysis towards its logical end where no substantial accidents were possible any more (unless in different respects). “Substantial accidents” should not be confused with Aristotelian “essential accidents” (*συμβεβηκότα καθ'αυτά*, s. *Met. Δ*, 30, 1025a30-34.).

that that thing, in its essence, is an accident. However, it is possible that in some particular case it happens to be an integral part of some composite entity (i.e. it cannot be removed without this entity being destroyed). In this case, it has to be concluded that this entity is not a substance – otherwise there would be something substantial that is an accident.

Thus Ibn ‘Adī has managed to combine the traditional Porphyrian approach to discerning substance and accident with his own idea, that being a substance or accident is something essential for an entity. He remains faithful to Porphyrian notions when he infers a thing’s being an accident on grounds of it being accidental. This is how one establishes that heat is an accident in the case of iron. However, inalienability no longer suffices to conclude that something is a substance. Since being a substance or an accident is something essential for, say, some *x*, we must first investigate whether *x* has ever been an accident. If not, we can suggest that *x* is a substance *qua* being a substantial part of another substance (as in the case of “rationality” and “man”). However, if it was once accidental and an accident, we must conclude that it is also now an accident, being an inalienable part of the “composite” which is a combination of substance and accidents. This is how Ibn ‘Adī’s theory as it is found in his “*On Fire and Heat*” works. As we are about to see, it leads to a metaphysical problem that was noticed by Ibn ‘Adī’s opponents.

It is unknown what the positions of Ibn ‘Adī’s contemporary opponents and supporters were.<sup>53</sup> However, his disciple Ḥasan b. Suwār b. Ḥammār wrote a whole treatise against his teacher on this topic. Although the treatise is lost, some of its arguments are preserved *in margine* of *MS: Paris Bibliothèque nationale, ar. 2346 of Categories*.<sup>54</sup> This commentary shows that Ibn Suwār tried to retreat to the Porphyrian notions of substantiality/being substance and accidentality/being accident. In order to do this, he first once again emphasized the part of the definition of being in-a-subject that says that it is “not as a part of a subject”. Secondly, he tried to eliminate Ibn ‘Adī’s interpretation of “not in any subject at all” by suggesting a different linguistic reading.

Ibn Suwār’s main goal is to prove that Ibn ‘Adī’s theory that substance has to be always substance, i.e. *never* in-a-subject (*innahū laysa huwa fī šay’ min al-mawḍū‘āt al-battata*), is false.<sup>55</sup> His first step is the argument that in this case all the *differentiae* (*fuṣūl*) would be accidents because they all are necessarily accidental to *genera*. Moreover, everything except prime matter would be an accident; for only prime matter is never in-a-subject.<sup>56</sup> Since everything is actually accidental to at least prime matter, and since for Ibn ‘Adī nothing can be a “substantial accident” or an “accidental substance” at the same time it follows that there are no substances apart from prime matter. So everything that exists is a composite of prime matter and accidents, which Ibn Suwār assumes to be absurd.

Ibn Suwār’s other mode of argumentation is mostly based on authorities. In order to support his position that parts of substances are inevitably substances – even if they are accidents in some cases – he cannot help but mention that Ibn ‘Adī’s opinion finds no support among the Commentators (*al-mufasssirūn*), nor in general among any Ancients (*aḥad min al-mutaqaddimīn*)

<sup>53</sup> Apart from Abū Bakr al-Adamī al-‘Aṭṭar, who is mentioned in a short treatise on this topic (Ibn ‘Adī, *Nuṣṣa*), Ibn Suwār mentions also Abū Ishāq Ibrāhīm Ibn Bakkūš as Ibn ‘Adī’s rival and Abū Sulaymān Muḥammad b. Ṭāhir as Ibn ‘Adī’s possible supporter on the topic of the “form of fire” (*ṣūrat al-nār*) (s. GERHARD ENDRESS, *Ibn al-Ḥammār*, in: U. RUDOLPH, *Philosophie in der islamischen Welt*, Bd 1, 8.-10. Jahrhundert (Basel 2012), p. 33).

<sup>54</sup> KHALIL GEORR, *Les Catégories d’Aristote dans leurs versions syro-arabes* (Beirut 1948), p. 373-377 (hereafter called Ibn Suwār, *In Cat.*). For the very convincing hypothesis which identifies this treatise with that mentioned *in margine* s. ENDRESS, *The Works*, p. 49.

<sup>55</sup> Ibn Suwār, *In Cat.*, p. 373.

<sup>56</sup> *Ibid.*, p. 374

and Moderns (*aḥad min al-muta'ahḥirīn*).<sup>57</sup> By contrast, Ibn Suwār quotes Ammonius, Porphyry and Simplicius in support of his own opinion. However, the most important authority remains Aristotle. It is he whom Ibn 'Adī contradicts. Ibn Suwār draws on what is known to him as Aristotle's definition of substance and accident. Following the Porphyrian tradition he stresses the fact that "being in-a-subject" excludes being in-a-subject as its part. If substances are not-"in-a-subject" – Ibn Suwār claims – following the logical rule of negation, we have to define substance as "that which is not-in-a-subject unless it is its part... (*laysa bi-mawḡud fī-ṣay' illā ka-ḡuz' minhu...*)."<sup>58</sup> A little later, Ibn Suwār supports these considerations with quotes from Porphyry and Simplicius that have already been discussed above.<sup>59</sup> On these grounds he agrees with Simplicius' conclusion that everything that is a part of substance, including the so-called "constituents" (*muqawwimāt*), is substance. The very last argument is traditional – directing his reader to *Cat.* 3a29: "The parts of substances are substances (*aḡzā' al-ḡawāhir ḡawāhir*)."<sup>60</sup>

Thus, Ibn Suwār insists on remaining true to the Porphyrian approach to substantiality and accidentality. The main criterion is – as it was in the Commentators' tradition – whether something is substantial or accidental. However, since that time Ibn 'Adī created a new way of thinking – that substance has to be substance always, i.e. it cannot *ever* be in-a-subject or accidental. Moreover, Ibn 'Adī relied in this argument on the authority of Aristotle who explicitly claimed that both primary and secondary substances have to be "not in-any-subject" at all (Arabic: *al-battata fī mawḡdū' mā*; Greek: *ἐν ὑποκειμένῳ δὲ οὐδενί*). In order to solve this difficulty Ibn Suwār appeals to a linguistic analysis of the Arabic expression "*huwa l-laḏī laysa l-battata fī mawḡdū' mā*". He claims that the Arabic "*mā*" in the definition of substance does not mean "any subject" but rather "this particular subject" (*muṣār ilayhi wa-l-wāḥid bi-l-'adad* or later *al-mawḡdū' al-fulānī*).<sup>61</sup> From the grammatical point of view, Ibn Suwār is right and both readings are possible. However, if we address ourselves to the Greek original, the Aristotelian "*ἐν ὑποκειμένῳ δὲ οὐδενί*" is unambiguous. It is Ibn 'Adī who has the correct understanding of the Aristotelian text and not Ibn Suwār. We can conclude that Ibn Suwār – being even more remote from the Greek original than Ibn 'Adī was<sup>62</sup> – misinterpreted of the Aristotelian text. On the grounds of this misinterpretation, he concludes that Ibn 'Adī's approach to discerning the nature of substance and accident is wrong. Ibn Suwār is able to claim that one and the same thing can be one time substance and one time accident – as heat in fire and heat in iron.

The dispute "on fire and heat" among the two representatives of the Baghdad Peripatetic School provides two principal issues. Firstly, none of them questioned the Porphyrian approach that, from accidentality, inferred being-an-accident, and from substantiality, inferred being-a-

<sup>57</sup> Ibn 'Adī regards these kind of arguments as dialectic (*al-ḡadaliyya*) although he also agrees to play according to these rules and tries to show that Aristotle is on his side (Yahyā b. 'Adī, *On Fire and Heat*, fol. 18v, §17).

<sup>58</sup> Ibn Suwār, *In Cat.*, 374.

<sup>59</sup> Ibid., p. 376-377.

<sup>60</sup> Ibid., p. 377.

<sup>61</sup> Ibid., p. 376-377. Ibn Suwār ascribes the same view to Ammonius. Moreover, he presents this linguistic interpretation as a quote from Ammonius. However, the source of this quote hasn't been identified. Anyway, it is hardly possible that Ammonius could have interpreted the Greek "*ἐν ὑποκειμένῳ δὲ οὐδενί*" in the same way as Ibn Suwār did the Arabic "*fī mawḡdū' mā*". For the Greek does not allow for two interpretations in the same way as the Arabic does.

<sup>62</sup> Ibn 'Adī's correct understanding of the definition can be explained through his knowledge of Syriac. For the Syriac translation of "*ἐν ὑποκειμένῳ δὲ οὐδενί*" as "*ba-medem dēn da-sīm*" (GEORR, *Les Categories*, p. 254, 6) does not leave any room for Ibn Suwār's interpretation either since *medem* always means "any" or "none" as in this context. Another Syriac translation puts it differently but agrees with Ibn 'Adī's interpretation (s. DANIEL KING, *The Earliest Syriac Translation of Aristotle's Categories* (Leiden-Boston, 2010), p. 96, 23-24).

substance. However, Yaḥyā b. ‘Adī claimed that substances have to remain substance always, i.e. they cannot ever be in-a-subject. This pushed him to the conclusion that one and the same thing cannot at one time be an accident and at another a substance; for being one or the other is something essential to them. Opposed to this, his disciple Ibn Suwār remained true to the Late Antique tradition in all respects. For him, the substantiality and accidentality of a thing only depends on its current circumstances. That’s why one and the same thing can be at one time a substance – if it is a “complement” of some other substance – and at another an accident – if it is accidental for that substance.

It is hard to say what the fate of this dispute was in the Baghdad School after Ibn Suwār’s treatise against Ibn ‘Adī. We cannot find this question explicitly discussed in the writings of the next generation. However, there is a sign that Ibn Suwār’s opinion won out. Abū l-Farağ Ibn al-Ṭayyib – Ibn Suwār’s disciple – apparently follows the traditional way of approaching substantiality and accidentality in his commentary on *Categories*. He does not show any knowledge of Ibn ‘Adī’s arguments and his position is compatible with those of Ibn Suwār and the Commentators. He claims that “*differentiae* of substances are both substances and accidents – they are accidents in relation (*bi-l-qiyās ilā*) to the *genus* because they are inherent in it (*daḥīla ‘alayhi*), and they are substance in relation to the species because they constitute it (*kāna minhā tuqawwamu*).”<sup>63</sup> This position corresponds to Ibn Suwār’s opinion that a thing’s substantiality and accidentality is ambivalent. Ibn ‘Adī’s theory of substance and accident was lost for the Baghdad Peripatetic School. However, it was rapidly picked up by Avicenna in order to turn it against the Baghdad School itself.

#### *Avicenna on the definition of substance and accident*

Having looked at the approaches to the notions of substancehood and substantiality in Late Antiquity and the Baghdad Peripatetic School, we now turn to Avicenna and his reformist reaction against the previous tradition. As was noted at the beginning, one finds a discussion about the proper definition of substance and accident in *al-Šifā’*, *al-Nafs* I, 1. It immediately appears to be related to the discussion about the ontological status of the parts of substance. Avicenna remarks at the end of his brief analysis of this problem in *al-Nafs* that he discussed it in his “Logic” at length. Apart from this, Avicenna also touches upon the same problem in *Ilāhiyyāt* II, 1 – although the discussion there is very short – and it too closes with a reference to the “Logic”.<sup>64</sup> In both cases Avicenna apparently means *Kitāb al-Šifā’*, *al-Maqūlāt* I, 3-6 and especially chapter I, 6 “*On the falsehood of the saying that one thing can be both accident and substance from two [different] perspectives*”.

One of the main goals of Avicenna’s investigation of the definition of substance and accident in *Maqūlāt* I, 3-6 is a differentiation between accidental/substantial and accident/substance. This is supplied by a strong emphasis on the essential character of being substance or accident. As it becomes clear even from the title of *Maqūlāt* I, 6, the position that he wishes to refute is that something can at one time be an accident and at another time a substance (or even at the same time from different perspectives). This targeted position is identical with that of Ibn Suwār and Ibn al-Ṭayyib.

<sup>63</sup> Abū l-Farağ b. al-Ṭayyib, *Tafsīr Kitāb al-Maqūlāt*, ed. C. FERRARI, *Der Kategorienkommentar von Abū l-Farağ ‘Abdallāh Ibn al-Ṭayyib* (Leiden-Boston 2006), p. 159, 21-23.

<sup>64</sup> Avicenna, *Kitāb al-Šifā’*, *al-Ilāhiyyāt*, ed. G. QANAWATĪ and S. ZĀYID (Cairo 1960), II, 1, p. 48, 15.

Avicenna first introduces the position that he is going to refute. It has three arguments in favor of the claim that one and the same thing can be both accident and substance:

- (1) His opponent supposes that *differentiae* are substances (*fuṣūl al-ḡawāhir ḡawahir*) and at the same time they are qualities (*al-kayfiyyāt*), i.e. a kind of accident (‘*araḍ*’). On these grounds he draws the conclusion that one and the same thing can be both substance and accident (*ka-inna al-ṣay’ yakūnu ‘araḍan wa-ḡawharan*).<sup>65</sup>
- (2) The second argument touches upon the status of form in matter. Form is in a material bearer (*hāmīl*) not as its part. It is consequently an accident of matter. However, it is at the same time a part of the composite substance (*al-ḡawhar al-murakkab* i.e. the substance composed of form and matter). So, it is also substance because a part of substance is a substance (*ḡuz’ al-ḡawhar ḡawhar*).<sup>66</sup>
- (3) The third argument deals with the difference between whiteness (*bayāḍ*) and white (*abyaḍ*), the second being a composite of substance and whiteness (*maḡmū’ ḡawhar wa-bayāḍ*). This composite is itself substance. Since whiteness is a part of white which is substance, it is substance itself. However, the same (*bi-‘ayniḥī*) whiteness is known to be in some subject (like Socrates) not as its part. So, it is accident in relation to its subject and substance in relation to the composite “white”.<sup>67</sup>

A little later Avicenna explains the general methodological approach of his opponents: They distinguish substance according to three conditions: (a) it is in-a-subject as its part; (b) everything that is in-a-subject as its part is not an accident and (c) everything that is not an accident has to be substance.<sup>68</sup>

It is beyond any doubt that Avicenna’s dialectical opponents represent the view of the Late Antique tradition welcomed by the Baghdad Peripatetics. In *Ilāhiyyāt* II, 1, Avicenna makes it clear that his discussion of the ontological status of the parts of substance depends on his knowledge of the same discussion in the Baghdad Peripatetic School:

Moreover, many who claim to have knowledge have allowed that something can be both a substance and an accident with respect (*bi-l-qiyās ilā*) to two things. Thus, [one of these people] would say: "Heat is an accident in something other than the body of fire, but in fire [as such] it is not an accident because it exists in it as a part. Moreover, it is not possible to remove [heat] from fire with the fire remaining [a fire]. Hence, its existence in fire is not that of the existence of an accident inhering in it. And if its existence in [the fire] is not the existence of an accident, then [the existence of heat] in [the fire] is the existence of a substance."<sup>69</sup>

It is not absolutely clear who in particular is being attacked and what treatises he had read on this problem. There is no doubt that Avicenna knew Yaḥyā b. ‘Adī’s position on the topic – since his own will be built on it. Moreover, in “*On Fire and Heat*” we have already seen the argument mentioned at *Ilāhiyyāt* II, 1 that heat is a substance in fire because it cannot be removed from it. Argument (2) stands close to the argumentation of Ibn Suwār and Avicenna pays much attention

<sup>65</sup> Idem, *Kitāb al-Šifā’, al-Mantiq, al-Maqūlāt*, ed. G. QANAWATĪ, M. AL-ḤUDAIRĪ, A. AL-AHWĀNĪ and S. ZĀYID (Cairo 1959), I, 6, pp. 45, 16 – 46, 1.

<sup>66</sup> Ibid., p. 46, 2-3.

<sup>67</sup> Ibid., p. 46, 4-7.

<sup>68</sup> Ibid., p. 48, 1-3.

<sup>69</sup> Avicenna, *The Metaphysics of Healing*, tr. M. MARMURA (Provo 2005), p. 46, 20-28.

to proving that form's being in matter is not being in-a-subject.<sup>70</sup> Argument (1) rather reminds one of the Late Antique considerations about substantial qualities: they are substantial and therefore substances according to Porphyry's rule but are still also qualities.<sup>71</sup> Avicenna's expression of the relativity of substancehood "*bi-l-qiyās ilā*" immediately reminds us of the same expression in Ibn al-Ṭayyib's commentary on *Categories*. We can thus conclude that Avicenna's discussion about the parts of substance was rooted in the Baghdad Peripatetic context, so that he directly or indirectly knew the main positions and arguments – and most importantly that of Ibn 'Adī. So much for Avicenna's opponents; let us turn now to his own position.

Avicenna begins by defining both substance and accident. The reality of the essence (*ḥaqīqat dātiḥī*) of substance does not exist in-a-subject at all (*lā fī mawḍū' al-battata*), being not its part in such a way that it would not be able to exist being separated (*mufāriqatuhū*). Accident, on the contrary, inevitably is in something so that its quiddity (*māhiyyatuhū*) does not come into existence (*lā taḥṣulu mawḡūda*) unless there is a thing in which it inheres.<sup>72</sup> We can easily see that Avicenna lays a strong emphasis on the notions of essence and quiddity of a thing while he defines substance and accident. It is these terms that allow him to make the main observation of his argumentation:

Since it is impossible that the quiddity of one and the same thing would need (*muftaqira*) to be in something as in-a-subject in order to exist and at the same time (*ma'a dālīka*) it would not need (*ḡayr muḥtāḡa*) at all (*al-battata*) to be in something as in-a-subject, there is nothing that is [both] substance and accident.<sup>73</sup>

Avicenna claims that something cannot be both accident and substance in different circumstances or under different relations because to be in need of any subject in order to exist or not is something that depends on its essence or quiddity and cannot vary. How do we know if something has this need or not? Avicenna gives an answer to this question while dealing with the arguments of his opponents. The thing does not need to be in-a-subject if it is never in the subject (*laysat fī šay' min ašyā' kamma yakūnu al-'araḍ fī l-mawḍū'*) – i.e. it is never an accident (*lam yakun 'araḍan al-battata*).<sup>74</sup> Avicenna understands the "*al-battata*" from the definition of substance as "never".<sup>75</sup> If something is indeed *never* in-a-subject it can be acknowledged to be substance – i.e. to be not-in-a-subject in itself (*fī nafsiḥī*).<sup>76</sup>

Relying on these premises Avicenna solves the problem of the parts of substance. It is wrong to think that a thing's "being in-a-subject as its part" automatically renders it substance. It

<sup>70</sup> *Maqūlāt* I, 3. This issue deserves a separate study. To summarize: form is in matter not as an accident in-a-subject because matter needs form in order to exist. It was very much discussed by Alexander (*Quaestio* I, 8; I, 16, I, 26, on them s. RASHED, *Essentialisme*, p. 44ff).

<sup>71</sup> Dexippus, *In Aristotelis categorias commentarium*, ed. A. BUSSE, *Dexippi in Aristotelis categorias commentarium, Commentaria in Aristotelem Graeca* 4.2. (Berlin 1888), p. 49, 10ff – where the Porphyrian doctrine is reported – is the closest passage to this argument. Avicenna's reference to the fact that '*differentiae* are substances' was something known from the antique tradition (this is what the expression *sami'u* (*Maqūlāt* I, 6, 46, 16) implies) could be a sign that he knew somebody from the Ammonian tradition that had claimed this.

<sup>72</sup> *Maqūlāt*, I, 6, p. 46, 8-13.

<sup>73</sup> *Ibid.*, p. 46, 16-19.

<sup>74</sup> *Ibid.*, p. 47, 8-13.

<sup>75</sup> Note the difference to Ibn 'Adī's linguistic analysis of the definition of substance. He thinks that "*mā*" in "*mawḍū' mā*" means "any" and on these grounds concludes that substance cannot be in any subject. On the contrary, Avicenna does not have the particle "*mā*" in his definition of substance and derives the same meaning of "never" as by Ibn 'Adī from the expression "*al-battata*" that can be both interpreted as "never" and "not in any respect".

<sup>76</sup> The expression substance in itself or accident in itself is used e.g. in *Maqūlāt*, I, 6, p. 48, 6, 13 etc.



is still possible that it is a part of a composite (*murakkab*) where it can be an accident.<sup>77</sup> How should we know then whether it is substance or not? We should investigate if it is *ever* in-a-subject. If not, it can be concluded that it is substance. If yes, it has to be admitted that this thing is accident – even if it is a part of its subject in this case and in thousand other cases.<sup>78</sup> Thus, a *differentia* is recognized to be substance not because it is a part of some of its concrete subjects, but rather because it is never in-a-subject and always a part of it. As for the relation between *differentiae* and genus, it is like that of form and matter – i.e. not as accident in-a-subject.<sup>79</sup>

In the analysis and argumentation described so far Avicenna apparently follows Yaḥyā b. ‘Adī. Both of them refuse to conclude that something is substance only on the grounds that it is in-a-subject yet as its part. Something has to be always not-in-a-subject in order to be labeled as substance. Being a substance or an accident is something dependent on a thing’s essence and is not relational. Being both a substance and an accident – either in one and the same case in relation to different circumstances, or at different times – is excluded by both authors. However, Avicenna does not only accept Ibn ‘Adī’s method to recognize substances. He goes further so that an important difference arises between the two philosophers in their theories of substantiality and accidentality.

It was established earlier that Ibn ‘Adī does not consider composites (*murakkabāt*) as substances. On these grounds he escaped from being forced to refute the whole Porphyrian method of distinguishing substance and accident. Ibn ‘Adī also maintained that there cannot be “substantial accidents” and “accidental substances”. However, we have seen that this could force him to the conclusion that nothing is a substance except prime matter (everything else being accidental for it). In order to escape this problem, the later Baghdad tradition rejected Ibn ‘Adī’s idea that an accident is always an accident. Their system allowed “substantial accidents” and “accidental substances” meaning by this “substantial to one subject and accidental to another”. Now, Avicenna takes Ibn ‘Adī’s path and assumes that accident is always accident, since it is its essential characteristic. How then does he escape the problem that everything would be an accident according to this theory? In order to do this, Avicenna refutes the whole approach of the preceding tradition – both Ibn ‘Adī and his opponents. He claims that being substantial/accidental and being substance/accident are not the same.

Avicenna establishes that ‘being a substance’ (*ḡawhariyya*) or ‘being an accident’ (*‘araḍiyya*) is not something relational (*li-anna l-ṣay’ bi-l-qiyyās ilā ṣay’...*), but rather they occur to a thing because of “itself” (*li-annahū fī nafsihī ka-dālika*).<sup>80</sup> Thus, something is an accident if it is in-a-subject and needs this or some other subject in order to exist. Its coming into existence happened through the existence of its subject (*dātuhū qad ḥaṣala mawḡūdan fī mawḡū li-*

<sup>77</sup> Avicenna already provides this argument in *Maqūlāt* I, 4, p. 34, 5-8 and 17-18. His position there seems to relay once again on Ibn ‘Adī. For Avicenna agrees that one should differentiate between the subject of accident and the composite. Being in a composite is not like being in-a-subject. A composite (*murakkab*) consists of a substance and an accident. The accident exists in the composite as its part while being in the substance as an accident. This is indeed how Ibn ‘Adī’s theory works as was established above.

<sup>78</sup> This is a summary of the argument presented in *Ibid.*, p. 48, 5 – 49, 12. Though such parts of substances are substances in Avicenna one should not consider them as independent parts cf. FEDOR BENEVICH, *Die göttliche Existenz: Zum ontologischen Status der Essenz qua Essenz bei Avicenna, Documenti e studi sulla tradizione metafisica medievale* XXVI (2015), p. 121.

<sup>79</sup> This argument is further evidence for Avicenna’s criticisms being directed at Ibn al-Ṭayyib. The latter wrote in his commentary on *Categories* that *differentiae* are in some respect accidents because they inhere in *genus* as in-a-subject. This is what Avicenna tries to escape here.

<sup>80</sup> *Maqūlāt* I, 6 p. 49, 13-15.

*ānnahū mawḡūd fī hādā l-mawḡū*). It is an accidental accident (*‘aradī wa ‘araḡ*) if it additionally is not a constituent (*muqawwim*) of its subject, i.e. it is not its subject’s part.<sup>81</sup> The same works for substantial (*ḡawharī*). It only means that something is a part of an underlying subject, i.e. it is a constituent of it. However, something’ being substantial does not render it a substance. For being a substance means “being in its ‘self’ in no need at all of a subject” (*fī nafsihī ḡayr muftaqir ilā mawḡū al-battata*). Being a substance is something non-relational whereas being substantial is relational.<sup>82</sup>

Thus, being substantial has a meaning different from being a substance and likewise being accidental is different from being an accident.<sup>83</sup> Being substantial or accidental depends on a thing’s current relation to its surroundings. It means that something is either added to a substance or is its integral part.<sup>84</sup> By contrast, being a substance or an accident is non-relative and essential for a thing. It is its essence, i.e. the thing itself apart from its surroundings, that reveals whether the thing needs a bearer to come into existence or not. As for the notions of substantial and accidental they express whether the thing is added or not. Being a substance or an accident expresses an *existential (in)dependence*, i.e. does something need something else to come into existence or not – despite not being connected causally to it. Avicenna claims that the latter is an absolutely different story from the former. Our knowledge whether something is added to something or is its integral part does not reveal whether it is existentially independent or not.

Avicenna distinguishes between existential independence and cognitive separability. There is no difference between substance and accident at all on the level of epistemic analysis (*fī l-wahm*): both substance and accident can be conceptually separated from each other.<sup>85</sup> However, on the level of extra-mental reality, a substance is independent whereas an accident cannot continue to exist being separated from it (*lā yumkinu mufāriqatuhū li-mā huwa fīhi*).<sup>86</sup> On the grounds of this approach Avicenna creates a further – this time methodological – difference between substantial/accidental and substancehood/accidenthood. In the former case, it is conceptual analysis that provides us with information about whether something is substantial or accidental. If S can be separated conceptually from P, then P is accidental for it, as “black” can be conceptually removed from Ethiopian.<sup>87</sup> On the contrary, if we cannot mentally entertain S

<sup>81</sup> Ibid., p. 49, 20 – 50, 4.

<sup>82</sup> Cf. Ibid., p. 50, 12 – 51, 4-5: “*al-ṣay’ laysa ḡawharan bi-l-qiyās ilā ṣay’ wa-in kāna ḡawhariyyan bi-l-qiyās ilā ṣay’ al-laḡī huwa fīhi*.”

<sup>83</sup> Avicenna expresses the same idea already in *Maqūlāt* I, 3 p. 26, 5-8 although he hasn’t proven it there yet. Previously he says that his opponents have confused being substantial and being substance while speaking about the notions of “*maqūl ‘alā l-mawḡū*” and “*maqūl fī l-mawḡū*” (*Maqūlāt* I, 3, 23, 4-6). According to Avicenna they claimed that only complements of substance (*muqawwimāt*) can be said “*maqūl ‘alā l-mawḡū*” whereas accidents cannot. For accidents are all accidental and cannot be predicated of their subject as universals. To the contrary, Avicenna argues that accidents can also be called “*maqūl ‘alā l-mawḡū*” when we speak about universal accidents (like universal “white”). However, it seems that Avicenna is rather unfair in this accusation. For e.g. Yahyā b. ‘Adī, who obviously recognizes the identity of accidental and accidents, also speaks of universal accidents in his *On Fire and Heat*, fol. 18v, §22. What Avicenna probably implies is that if substantial (which is extensionally equal to “*maqūl ‘alā l-mawḡū*”) means substance, then the Porphyrians have problems with substantial attributes of accidents (like “color” for “white”).

<sup>84</sup> Accordingly Avicenna has three types of accidental: accidents *par excellence*, necessary concomitants (*lawāzim*) and essentially necessary concomitants (alias “essential accidents”, *al-a rād al-dātīya*), cf. Avicenna, *Kitāb al-Šifā’, al-Manṭiq, al-Madḡal*, ed. G. QANAWATĪ, M. AL-ḤUDAIRĪ and A. AL-AHWĀNĪ (Cairo 1952), p. 32.

<sup>85</sup> *Maqūlāt* I, 4, p. 37, 5-6

<sup>86</sup> Ibid., p. 32, 18.

<sup>87</sup> Avicenna, *Madḡal* I, 5, p. 32, 10. Example is Avicennas.

without ascribing P to it, P is essential for it, as “figure” and “triangle”.<sup>88</sup> However, in the analysis of existential dependence, epistemic analysis is claimed by Avicenna to be misleading. It does not matter whether one can conceive of an accident without its subject or not. Instead Avicenna suggests observing whether some P comes in a concrete case (*mu‘ayyan*) into existence only while some S underlies it. This means that the cause of the actual subsistence of P (not of its essence!) lies in S (*‘illa qiwāmihi hiya annahū fīhi*).<sup>89</sup> Although Avicenna says that one can conceive of Ethiopian with the attribute “black” and “black” without Ethiopian, black depends in its existence on Ethiopian when it comes to be in him. Hence the analysis levels of substantiality and substancehood are different ones. The one involves conceptual analysis in order to draw conclusions about the essential or non-essential character of an attribute. It builds the structures of essential dependence among the things. However, the other (substancehood/accidenthood) does not investigate what is essential and what is not. It reveals a different kind of ontological relation: something can come into existence only while something underlying exists. Although the essence of “blackness” does not anyhow depend on its subjects it needs them in order to come into existence. This latter is to be called “existential dependence”.<sup>90</sup>

Thus, in order to establish whether the thing under investigation is substance or accident we have to prove whether it is *per se* existentially independent. This is ascertained by discovering whether it is existentially independent in all possible cases. If it is existentially independent in every case known to us – i.e. it continues to exist even if its subject is removed – then it is independent *per se* and subsequently is a substance.<sup>91</sup> If it is found at least in one case to be dependent then it is an accident in itself. This was also Ibn ‘Adī’s conclusion. However, now Avicenna differentiates between accidental and accident. This is precisely what allows him to escape Ibn ‘Adī’s dilemma, which entailed that all things are accidents because they are accidental, i.e. additional, to prime matter. The same worked for *differentiae*, which are similarly added to their *genera*. Avicenna disagrees; *differentiae* are not dependent on the genus or the forms on matter. For genus is also dependent on *differentiae* and matter on forms.<sup>92</sup> Avicenna apparently thinks that mutual dependence rules out the sort of dependence involved in “being in-a-subject”. Since he has also drawn a distinction between accidental and accident, the conclusion follows: *differentiae* are accidental to *genera* but they are not accidents in it. Only if it happens for them to be once an accidental accident, are they accidents in their *genera*. Otherwise they are substances.<sup>93</sup> The same works for matter and forms. Although forms are accidental to matter – for they are obviously additional to it – they are not in matter as in-a-subject and accordingly they are not accidents but substances.

<sup>88</sup>Ibid., I, 6, 34-35. By conceptual inseparability I mean here that conceiving of P is a necessary condition for conceiving of S. Otherwise, some immediate concomitants would be conceptually inseparable two as Avicenna states while denying that they are necessary conditions for conceiving of essences. For the synonymy of “essential” and “substantial” see *infra*.

<sup>89</sup> *Maqūlāt* I, 4, p. 32, 17 – 33, 9.

<sup>90</sup> Cf. the idea of dependence of accidents on substances in MARWAN RASHED, *Al-Ḥasan Ibn Mūsā al-Nabawāḥtī: Commentary on Aristotle “De Generatione et Corruptione”* (Berlin 2015), pp. 108-14.

<sup>91</sup> Going back to the starting point of this article - this is how Avicenna establishes that soul is a substance in *Nafs* I, 3. Note that both Avicenna and Ibn ‘Adī disregard the problems of induction. If a scientist decides that he knows *all the cases* and in all these cases something is not-in-a-subject he is able to conclude that it is a substance. It is always possible, though, that some particular case where it *is* in-a-subject escapes the scientist’s attention.

<sup>92</sup> *Maqūlāt* I, 6, p. 47, 8-13.

<sup>93</sup> This only applies to the *differentiae* that Avicenna calls “derivative” or “simple” like “rationality” (*nutq*) as opposed to “univocal” and “composite” *differentiae* like “rational” (*nātiq*). Whether the latter are substances or not is dependent on their bearers. On this see SILVIA DI VINCENZO, *Avicenna against Porphyry’s Definition of Differentia Specifica, Documenti e studi sulla tradizione metafisica medievale XXVI* (2015), pp. 162-3.

Avicenna thus is committed to the view that there should be some substantial accidents and accidental substances. For instance, if fire is substance while being composed of some substance and the accident “heat”, then there are some substantial accidents. But are all the composed things (*murakkabāt*) substances in Avicenna? Rather not.<sup>94</sup> Nevertheless it would suffice that composites according to Avicenna have some quiddity (*māhiyya*) or essence (*dāt*).<sup>95</sup> For Avicenna states that “substantial” means the same as “essential” – i.e. being an integral part of an essence.<sup>96</sup> Since being substantial or essential means nothing more than being integral or being added to something that has an essence, it follows that there are some substantial accidents. Namely, those accidents which are integral to the essences of the composites are indeed substantial accidents. What about accidental substances? Avicenna’s strict distinction between accidental and accident is problematic in many respects because accidentality (like additionality) implies more or less the same meaning of ontological dependence as being an accident.<sup>97</sup> It is consequently hard to find any accidental substances – cases when something is “added” yet is independent. Nevertheless, Avicenna explicitly states that there are accidental substances in *Nağāt*<sup>98</sup> and in *Ilāhiyyāt* III, 3<sup>99</sup>. In both cases Avicenna resorts to the help of a rather artificial example that was also mentioned in the third argument of his opponents. Whiteness (*bayād*) is an accident and is accidental. However, “white” (*abyaḍ*) – which means “that which possesses whiteness”<sup>100</sup> – is substance yet also accidental for e.g. Zayd. The “white” is a kind of composite substance being composed of substance (Zayd?) and the accident “whiteness” while this substance is something accidental to Zayd. This theory is rather obscure. Avicenna probably means that “Zayd is being white” makes “the white” an ostensible substance, as when we say “This white [thing] which is Zayd”. Thereby Avicenna explicitly accepts accidental substances. “This white thing” is an ontologically independent subject being an accidental state of “Zayd”. Nevertheless Avicenna himself accepts that “accidental” and “accidenthood” are necessary concomitants of each other although they do not denote the same thing (*wa-hāḍāni l-ma’ayāni wa-in talāzamā*).<sup>101</sup> It is also clear why: the accidental substance “the white” is a composite of “whiteness” and “substance” and it always involves an accidental accident “whiteness” as its part. Again, although “the white” and “whiteness” are necessary concomitants they are different ontological entities with different characteristics: “the white” is an accidental substance whereas “whiteness” is an accidental accident. Does this mean that “accidental” and “accident” are only intensionally different, whereas extensionally the same?

<sup>94</sup> One should distinguish between two kinds of composites: C is composed of S and P where (1) S is matter (or like matter) and P is form (or like form). These composites are substances and their parts are substances (cf. *Ilāhiyyāt* V, 3, p. 214, 15); (2) S is substance and P is an accident like chair made of wood and a particular form or snubnose consisting of nose and concavity. Avicenna explicitly says that these are not like matter and form. Such composites are not substances (*Maqūlāt* I, 4, p. 34, 17-20).

<sup>95</sup> *Ilāhiyyāt* V, 8, p. 244-245. Here concavity and nose are mentioned again.

<sup>96</sup> *Maqūlāt*, I, 6, p. 50, 15: *fa-yakūnu l-ḡawharī makān al-dātī*. The definition of „essential“ as “integral part of essence” corresponds to Avicenna’s definition of essential in *Madḥal* I, 5-6. However this is not the only understanding of “essential” in Avicenna. Apart from it there is also: *Burhān* definition of essential found in Avicenna, *Kitāb al-Šifā’*, *al-Manṭiq*, *al-Burhān*, ed. A. ‘AFIFI (Cairo 1952), II, 2, p. 125-127; “primacy” definition of essential found in *Burhān* II, 2, p. 128 and e.g. in Avicenna, *Al-Išārāt wa-l-tanbīhāt ma’a šarḥ Naṣīr al-Dīn al-Ṭūsī*, ed. S. DUNYA, vol. 1 (Cairo 1957), p. 170, 5 – 173, 3.

<sup>97</sup> The very notion of “addition” implies the meaning of being dependent. This was apparently one of the reasons why the Porphyrian tradition started to define accident through its accidental character. The other reason should have been Aristotle himself (s. BARNES, *Porphyry*, p. 220-224).

<sup>98</sup> Avicenna, *Kitāb al-Nağāt min al-ḡarq fī baḥr al-dalālāt*, ed. M. DANIŠPAŽŪH (Tehran 1985), p. 12, 9-10.

<sup>99</sup> *Ilāhiyyāt* III, 3, 106, 15-17.

<sup>100</sup> Avicenna explains what “white” means in *Maqūlāt* I, 15, p. 41, 15 and II, 58, 3ff.

<sup>101</sup> *Ibid.*, p. 50, 6-7.

Avicenna's position on this is not clear enough here. In the case of whiteness it is the case. However, "accidental" could also include such cases as two bound substances like soul and body. They are "additional", i.e. accidental to each other, but neither of them involves an accident. In this case we have two accidental substances but no accidents, so that the "accidental" and "accident" are also extensionally different.

To sum up: how can we decide whether some "B" which is predicated of "A" designates a substance or an accident according to Avicenna? First, we have to decide whether B is substantial or accidental to A, i.e. extrinsic or intrinsic. In order to do this, we check whether "A" can be conceived of without having "B". If so, then we still have to check, whether "B" existentially depends on "A" or just accompanies it. If it is dependent on "A", then "B" is an accidental accident. If "B" is independent though additional it is an accidental substance. On the other hand, if "B" appears to be required for "A" the procedure is different. We have to check whether in any among the observed cases "B" appeared to be an accidental accident. If not, but has always been either an accidental substance or something substantial we can conclude that it is a substantial substance in this case. If, however, it has been an accidental accident at least once, then it is a substantial accident in this case. One could wonder, why not just check whether "B" depends on "A" as we did in the case when it was accidental (not required for "A"). Avicenna never clarifies this point, but we could suggest that, if "B" is substantial for "A" it will always seem that it depends on "A" – is it a substance or accident in itself. In order to escape this mistake – because this kind of dependence is something different from what Avicenna wants with "accident" – Avicenna suggest a different methodological route.

The most important theoretical consequence of this procedure is the differentiation between two kinds of metaphysical relation that two things may have to each other. (1) One is "being additional" or "being integral". It corresponds to what we nowadays would call "*essential grounding*". For it signifies the fact that an essence is grounded by its constituents (like "rationality" and "man") and not grounded by the extrinsic attributes. This relation is checked by the test whether the conceptual negation of the predicate removes the subject. (2) As for "being dependent" or "independent", it can be labeled as "*existential grounding*"; for it signifies that an attribute P is dependent in its existence on S – irrespective of whether P is essentially connected to S or not. The existential grounding relation is checked by statistical analysis: whether P's existence has ever been found dependent on the existence of an S.

Before we conclude, one remaining difficulty has to be solved. In *Maqūlāt* II, 1-2 Avicenna, following the Peripatetic tradition, tries to establish that neither "being" (*mawğūd*) is a genus for all the categories, nor is "accident" (*'araḍ*) a genus for the nine categories. In both cases his argumentation works in the same manner: he clarifies that neither "being" nor "accident" are constituents (*muqawwim*) of categories whereas genus has to be a constituent. Avicenna first shows that "being" is not the genus of categories – even if we agreed that it is used in them univocally (*bi-l-tawāṭu'*).<sup>102</sup> He proves it on the ground of his famous essence-existence distinction: if we imagine the quiddity of a triangle this does not entail that we imagine it being existent – whereas it does entail imagining it as a "figure" (*lasta taḥtāğū fī taṣawwurika māhiyyat al-muṭallat an tataṣawwira annahū mawğūd ka-mā taḥtāğū an tataṣawwira annahū*

<sup>102</sup> Avicenna himself follows the Peripatetic tradition accepting that being is said of categories by analogy (*bi-l-taškīk*). On this s. ALEXANDER TREIGER, *Avicenna's Notion of Transcendental Modulation of Existence* (taškīk al-wuğūd, analogia entis) and *Its Greek and Arabic Sources*, in: F. OPWIS and D. RESIMAN, *Islamic Philosophy, Science, Culture, and Religion: Studies in Honor of Dimitri Gutas* (Leiden-Boston 2012), pp. 327-365.

šakl). Thus, existence is not a constituent of a triangle's quiddity (*fa mā kāna miṭla l-wuḡūd fa-laysa muqawwiman li-l-māhiyyatihī*). "Being" is not something denoting an entity integral in the quiddity of a thing (*fa-innahū ḡayr dāll 'alā ma'nā dāḥil fī māhiyyāt al-ašyā*). So, it cannot be its genus.<sup>103</sup>

The same works for "accident" in relation to the nine categories. It does not denote the natures (*ṭabā'i*) of these categories but rather a relation to what they inhere in (*al-nisba ilā mā huwa fīhi*). Avicenna explicitly states that being an accident is something accidental "araḍī" for the nine categories so that it is not constituent of their quiddities (*amr ḡayr muqawwim li-māhiyyātihā*). Parallel to his proof that the existence of triangle is not obvious for us from the very notion of triangle, Avicenna says that neither is being accident obvious for the nine categories and had to be proven for each of them in the First Philosophy.<sup>104</sup> So, "accident" is not a constituent and consequently not the genus of the nine categories.<sup>105</sup>

How can Avicenna assume that a thing is substance/accident in its essence (*fī nafsihī or fī dātihi*) if being an accident is something "accidental" for it? Can something be essential and accidental at the same time? Avicenna does not seem to see any inconsistency here but simply repeats that being in-a-subject is essential for accident, i.e. its essence entails it (*dātaḥū taqtaḍī*).<sup>106</sup> However, this inconsistency can be solved if we investigate different meanings of "essential" in Avicenna as well as pay attention not only to what is parallel between the case of existence and accident but also to the differences between them.

The "essential" (*dāti*) can have several meanings in Avicenna. For us two of them are important now. First "essential" as it is used in *Madḥal* I, 5-6 where it means just "constituent" (*muqawwim*). It is in this respect that accident was called "accidental" – because it is not a constituent of essence. However, the essential necessity of accidenthood for accidents is understood in this article in a different way. Avicenna alludes to it when he defines both substantial and some accidental parts as: "that which occurs to the thing not through a cause external to it" (*lā yakūnu laḥū bi-illa ḥāriḡa 'an dātihi*). Even something accidental can be labeled as essentially necessary in this sense of essential because the quiddity entails (*muqtaḍiya*) it.<sup>107</sup> It is this sense of essential where existence and being an accident differ. The former is neither a constituent of a thing nor is it accidental yet essentially necessary. The latter is not a constituent either. However, it is essentially necessary because the very essence of a thing entails its being an accident. Hence Avicenna, speaking about the parallel between the relation of accident to the nine categories and that of being to quiddities, makes a restriction: "as regards not being integral to quiddity".<sup>108</sup> Thus, the parallel between the non-essentiality of existence and

<sup>103</sup> *Maqūlāt* II, 1, p. 61, 2-14. In *Iṣārāt*, p. 155 he uses the same argument in order to establish that existence is not something essential for essence.

<sup>104</sup> By this he probably means proving the accidentality of numbers etc. s. STEPHEN MENN, *Avicenna's Metaphysics*, in: P. ADAMSON, *Interpreting Avicenna: Critical Essays* (Cambridge 2013), p. 162. Menn rightly demarcates between the *Isagoge* (predicable) and *Categories* (predicamental) sense of "accident" which is crucial for the present article.

<sup>105</sup> *Maqūlāt*, II, 2, p. 65, 12 – 66,2. A good example could also be the parts of substance that are the topic of this paper.

<sup>106</sup> Ibid., II, 2, p. 65, 13: „wa 'alā anna dātaḥū taqtaḍī ḥāḍihī l-nisba" and Ibid., 16-17: "‘alā annahū fī dātihi bi-ḥayt lā budda laḥū min mawḍū'".

<sup>107</sup> Ibid., II, 1, p. 61,17 – 62,1: "wa-in kāna qad yakūnu min al-'araḍī mā ḥuṣūluḥū laysa bi-'illat ḥāriḡa 'an al-māhiyya bal takūnu l-māhiyya mūḡiba laḥū wa-muqtaḍiya ayāhu." This sense of essential is extensionally identical with the scientific essentiality of *Burhān* II, 2.

<sup>108</sup> Ibid., II, 2, p. 66, 2-3: „fa-nisbat al-'araḍ ilā ḥāḍihī nisbat al-mawḡūd ilā māhiyyāt min ḥaytu laysa dāḥilan fī l-māhiyya."

being an accident is valid only in the framework of the first meaning of essentiality, i.e. where essential is identical to constituent. By contrast, as for the second meaning of essential, existence is not essential whereas “being accident”, i.e. “being in need of a subject when existing” is essential.

Thus, the difficulty is solved. Avicenna’s essentialist approach to defining the condition of being substance or accident remains valid. It is the essence of a thing that entails its being substance or accident – irrespective of what surrounds it. Avicenna’s main insistence is that this happens due to the existential independence or dependence of a thing that is predicated of it *per se*.

### Conclusion

Avicenna’s theory of substance and accident is mostly developed as a reaction to the previous tradition.<sup>109</sup> As was shown in the first part of this article, the Aristotelian definition of substance and accident in *Categories* provided Avicenna’s predecessors with two features characteristic of accidents. The first was that accidents are in their subjects not as their parts. The second was that accidents are ontologically dependent on their subjects. The Late Antique tradition laid emphasis on the first aspect of being accident and that’s why they equated being an accident with being accidental (i.e. extrinsic to substance). On these grounds it emerged that everything that is substantial – i.e. integral for a substance – is substance itself. This tradition paired accidentality (additionality) with ontological dependence and substantiality (intrinsicity) with ontological independence.<sup>110</sup>

However, a problem emerged from this. If being substance/accident means being substantial/accidental then one and the same thing can at one time be substance and at another accident – or even at the same time in relation to different objects. This was the mainstream position in the Baghdad Peripatetic School in the 10<sup>th</sup> century – its traces can be found in Ibn Suwār and Abū l-Farağ Ibn al-Ṭayyib. However, Yaḥyā Ibn ‘Adī tried to refute it insisting that being substance or accident is something non-relational, i.e. essential for a thing. Nevertheless, Ibn ‘Adī remained faithful to the Late Antique tradition. His theory accepts that every substantial feature is substance whereas every accidental is accident although there are cases of composites (*murakkabāt*) when being a part entails neither substantiality nor being a substance. His theory was in danger of stating that everything apart from prime matter is a composite.

Avicenna followed Ibn ‘Adī in his idea that being substance/accident is essential for a thing. Relying on the observations of this article as well as on other well-known cases of Ibn

<sup>109</sup> It is worth noticing that this conclusion applies first of all to Avicenna’s theory of substance as found in his *Šifā’*. On the contrary, we cannot find any traces of the discussion about fire and heat in his earlier work *al-Muḥtaṣar al-awsaṭ* (s. ALEXANDER KALBARCZYK, The Kitāb al-Maqūlāt of the Muḥtaṣar al-awsaṭ fī l-manṭiq: A Hitherto Unknown Source for Studying Ibn Sīnā’s Reception of Aristotle’s *Categories*, *Oriens* 40 (2012), p. 329-332), although it was obviously Avicenna’s *vorlage* for several topics discussed in *Maqūlāt*.

<sup>110</sup> Thus: If X is substance and Y is accidental for it, removing Y does not harm X (= accidentality of Y), whereas removing of X eliminates Y (= ontological dependence of Y). Following this logic one can easily imagine the same procedure for substantial parts so that the following is valid: if X is substance and Y is substantial for it, removing of Y eliminates X (= substantiality of Y), whereas removing of X does not harm Y (= ontological independence of Y). It follows that substances are a kind of accidents for their substantial constituents and that these constituents are ontologically more independent than the substances. This is the conclusion that al-Fārābī derives from the Porphyrian approach to substantiality and accidentality (Al-Fārābī, *Kitāb al-Ḥurūf*, ed. M. MAHDI (Beirut 1969), p. 103, 12 – 104, 5).

‘Adī’s influence on Avicenna<sup>111</sup> we can suggest that Ibn ‘Adī was after al-Fārābī one of the main Arabic sources for Avicenna. It is especially significant in the case investigated in this article since Avicenna made use of Ibn ‘Adī’s theory of essentiality of being substance in order to refute the position represented by other later Baghdad Peripatetics as Ibn Suwār and Ibn al-Ṭayyib.

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<sup>111</sup> S. e.g. MARWAN RASHED, *Ibn ‘Adī et Avicenne* and MENN, *Avicenna’s Metaphysics*, p. 154 – 157 on Ibn ‘Adī’s influence on Avicenna’s theory of universals. Exactly as in our case Avicenna takes Ibn ‘Adī’s ideas as a starting point and develops them in what becomes one of the main new ideas of his metaphysics.